

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of

MEADE *et al.*

Serial No. 10/693,252

Filed: October 24, 2003

For: *Functional MRI Agents For Cancer  
Imaging*


Examiner: SCHLIENTZ, Leah H.

Art Unit: 1618      Conf. No.: 9088

CERTIFICATE OF ELECTRONIC TRANSMISSION  
UNDER 37 C.F.R. 1.6(a)(4)

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Dated: June 20, 2007

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Monica E. Carlos

RESPONSE TO ELECTION REQUIREMENT

Mail Stop Amendment  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

This paper is in response to the Restriction Requirement mailed April 2, 2007, having a response due on or before July 2, 2007, with a two (2) month extension. This Response is filed on or before July 2, 2007, with a two (2) month extension making this a timely response under 37 C.F.R. § 1.7(a). Applicant authorizes the Commissioner to charge any additional fees which may be required, including extension fees, or credit any overpayment, to Deposit Account No. 50-2319 (Our Order No.: 068269-5010-US).

**Amendments to the Claims** begins on page 2 of this paper.

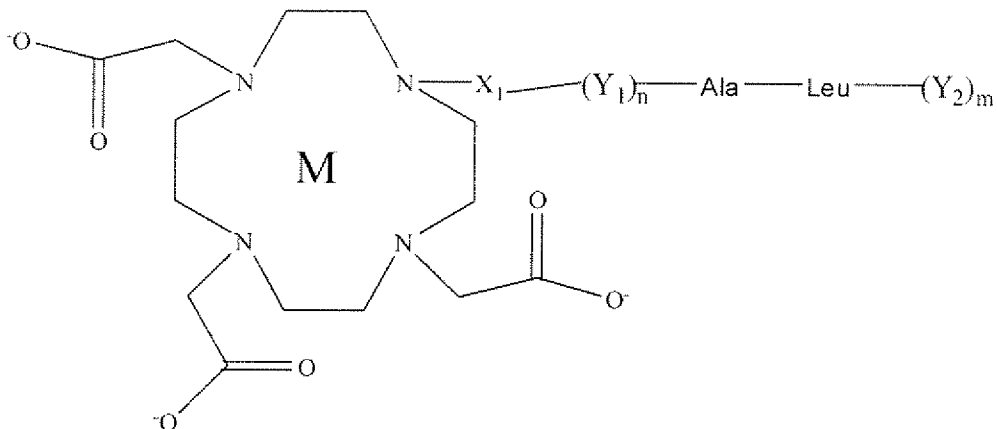
**Remarks** begin on page 6 of this paper.

### AMENDMENTS TO THE CLAIMS

1-18 **(Cancelled)**

19. **(Previously Presented)** A method comprising:

a) administering an MRI agent having the formula:



Y<sub>1</sub> and Y<sub>2</sub> are independently amino acid moieties;

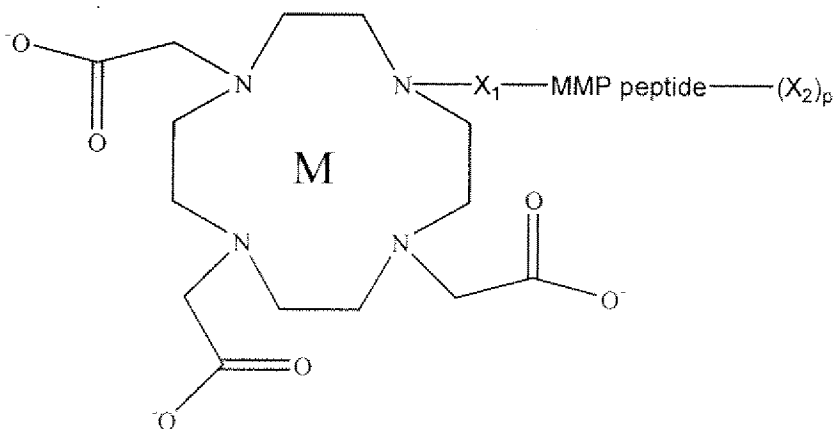
n and m are each independently an integer from 0 to 5

X<sub>1</sub> is an independent linker; and

salts thereof.

20. **(Previously Presented)** A method comprising:

a) administering an MRI agent having the formula::



wherein

M is a paramagnetic metal ion selected from the group consisting of Gd(III), Fe(III), Mn(II), Y(III), Cr(III), Eu(III), and Dy(III);

X<sub>1</sub> and X<sub>2</sub> are each independent linkers;

MMP is a matrix metalloproteinase (MMP) active peptide;

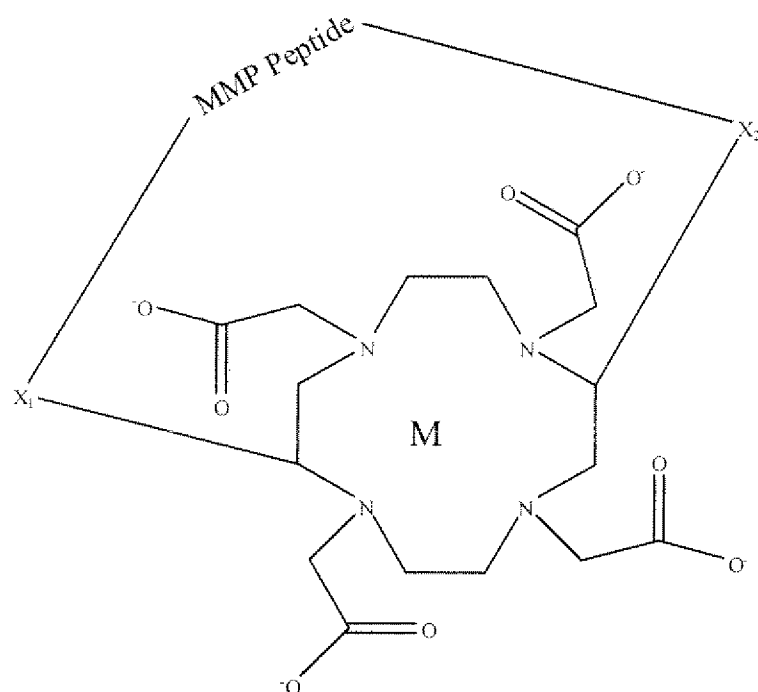
p is an integer from 0 to 1; and

salts thereof;

- b) contacting said MRI agent under conditions wherein said MMP active peptide interacts with a MMP such that the T<sub>1</sub> of the said MRI agent is decreased; and,
- c) producing a magnetic resonance image of a cell, tissue, or patient.

- 21. **(Previously Presented)** A method according to claim 19, wherein said M is Gd(III).
- 22. **(Previously Presented)** A method according to claim 20, wherein said M is Gd(III).
- 23. **(Previously Presented)** A method according to claim 19, wherein X<sub>1</sub> is selected from the group consisting of an aryl or alkyl group.
- 24. **(Previously Presented)** A method according to claim 20, wherein X<sub>1</sub> is selected from the group consisting of an aryl or alkyl group.
- 25. **(Previously Presented)** A method according to claim 20, wherein X<sub>2</sub> is selected from the group consisting of an aryl group, an alkyl group, a carbohydrate group, a nucleic acid group, a lipid group, and combinations thereof.
- 26. **(Currently Amended)** A method according to claim 19, wherein X<sub>1</sub> is -(CH<sub>2</sub>CO)-, Y<sub>1</sub> is -Pro-Met- when n = 2, and Y<sub>2</sub> is -Trp-Met-Arg when m = 1 (SEQ ID NO: 4) ~~3 (SEQ ID NO:1)~~.
- 27. **(Previously Presented)** A method according to claim 19, wherein X<sub>1</sub> is -(CH<sub>2</sub>CO)-, Y<sub>1</sub> is -Met- when n = 1, and Y<sub>2</sub> is -Trp-Met-Arg when m = 3 (SEQ ID NO:2).
- 28. **(Previously Presented)** A method according to claim 19, wherein X<sub>1</sub> is -(CH<sub>2</sub>CO)-, n = 0, and Y<sub>2</sub> is -Trp-Met-Arg when m = 3 (SEQ ID NO:3).
- 29. **(Previously Presented)** A method according to claim 20, wherein said MMP is MMP 7.

30. **(Previously Presented)** A method according to claim 20, wherein  $X_1$  is  $-(CH_2CO)-$ , said MMP peptide comprises Leu-Met-Trp-Arg, and  $p = 0$  (SEQ ID NO:20).
31. **(New)** A method comprising:
- a) administering an MRI agent having the formula:



wherein

M is a paramagnetic metal ion selected from the group consisting of Gd(III), Fe(III), Mn(II), Y(III), Cr(III), Eu(III), and Dy(III);

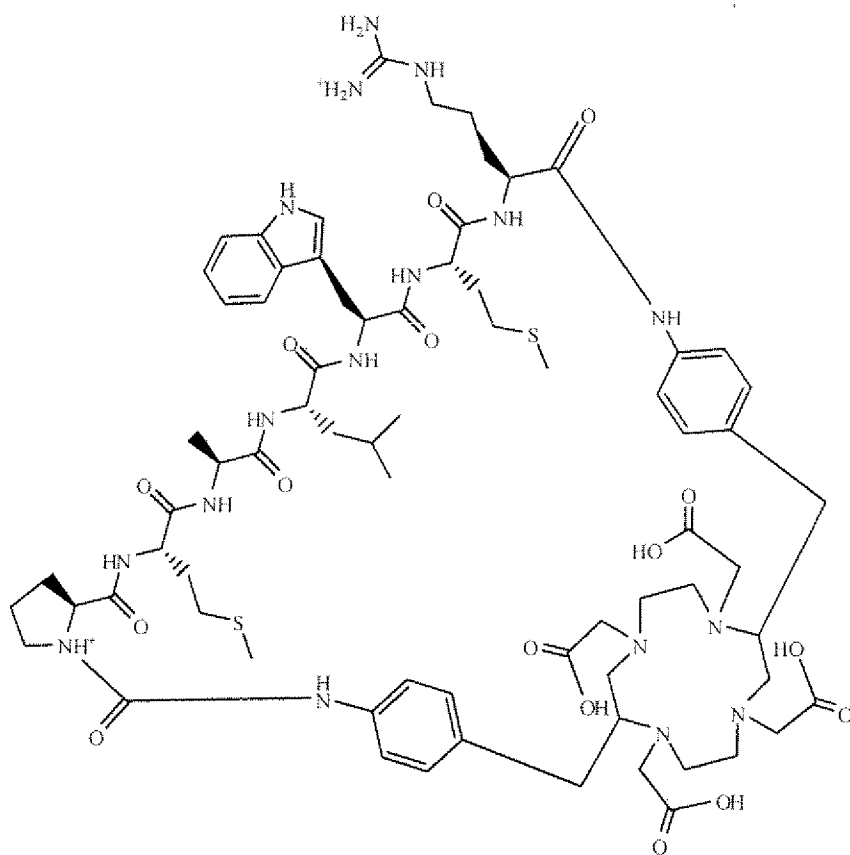
$X_1$  and  $X_2$  are each independent linkers;

MMP is a matrix metalloproteinase (MMP) active peptide; and

salts thereof;

- b) contacting said MRI agent under conditions wherein said MMP active peptide interacts with a MMP such that the  $T_1$  of the said MRI agent is decreased; and
- c) producing a magnetic resonance image of a cell, tissue, or patient.
32. **(New)** A method according to claim 31, wherein said M is Gd(III).

33. (New) A method according to claim 31, wherein  $X_1$  and  $X_2$  are independently selected from the group consisting of p-aminobenzyl or substituted p-aminobenzyl.
34. (New) A method according to claim 31, wherein said MMP peptide is Pro-Met-Ala-Leu-Trp-Met-Arg (SEQ ID NO: 4).
35. (New) A method according to claim 31, wherein said MMP is MMP 7.
36. (New) A method according to claim 31, wherein said MRI agent has the formula:



### REMARKS

Claims 19-36 are pending. Claims 13-23 are newly added. Support for the new claims can be found in the claims as originally filed and throughout the specification at, for example, Figure 5, and page 23 line 13 through page 24, line 8.

### Species Election

Regarding the Species Election Requirement mailed April 2, 2007, Applicants were required to elect (1) a specific MMP peptide species; and (2) a specific linker.

Applicants hereby elect the following:

(1) MMP peptide is Pro-Met-Ala-Leu-Trp-Met-Arg (SEQ ID NO: 4); and

(2) Linker is p-aminobenzyl.

Applicants respectfully submit that claims 19-22, 29, 31-32, and 35 are generic and claims 2633, 34, and 36 are readable on the elected species.

Applicants do not believe an election of species between the compounds of claims 19, 20 and 31 is required. However, if an election of species is deemed necessary, Applicants hereby elect the compound of Claim 31.

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### CONCLUSION

The Commissioner is authorized to charge any fee or any other relief that may be required, in connection with this petition to Deposit Account 50-0310 (Docket No.: 068269-5010-US).

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